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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,518	09/16/2003	Akira Yamaguchi	Q76261	1366

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EXAMINER	
PHAM, TAMMY T	
ART UNIT	**PAPER NUMBER**
2629	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/662,518	YAMAGUCHI ET AL.	
	Examiner	Art Unit	
	Tammy Pham	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 October 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant has filed a Terminal Disclaimer (dated 10/06/2006) which has overcome the Double Patenting Rejection of 07/06/2006. Claims 1-15 are pending.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. **Claims 2-3** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 2 recites "...the display device is provided with ***at least one element*** selected from the group consisting of a substrate, a face plate, a diffuser panel, a color filter, a diffuser film, a collimator film, a prism film and a polarizing film which are colored to a predetermined color (lines 1-4)." The above underlined limitations may imply a display device provided with all elements from the group consisting of a substrate, a face plate, a diffuser panel, a color filter, a diffuser film, a collimator film, a prism film and a polarizing film. However, there is nowhere in the disclosure to teach such display device. Further, as best understood, there is no such display device known to one skilled in the art.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. **Claims 4-5** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 4 recites the broad recitation *"...three or more levels...,"* it is unclear as to which value the range extends to. With the current claim language, three or more, implies that there are an infinite possibilities of levels. Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over JACOBSON et al. (US Patent No: 5,961,804).

As for independent claim 1, JACOBSON teaches of a monochromatic image display system comprising a flat panel-like display device (not shown), each picture element (Fig. 3a, item 320) of the display device (not shown) emitting light in a same color (Fig. 3a, item 330).

JACOBSON fails to teach that each that the same color falls within the region surrounded by points ***(0.174, 0), (0.28, 0.32) and (α, 0.32)*** as represented by co-ordinates (x, y) on a CIE chromaticity diagram, wherein α represents the x-coordinate of the intersection of a spectrum locus and a straight line y=0.32.

Examiner takes ***official notice*** that it is well known in the art to specify that the same color is blue, or specifically that the same color falls within the region surrounded by points (0.174, 0), (0.28, 0.32) and (α, 0.32) as represented by co-ordinates (x, y) on a CIE chromaticity diagram, wherein α represents the x-coordinate of the intersection of a spectrum locus and a straight line y=0.32.

It would have been obvious to one with ordinary skill in the art at the time the invention was made to have the display device emit light in a same color as taught by JACOBSON and specify that the "same color" is blue because it is a well known common practice within the medical community to produce images in shades of blue (see reference cited in Conclusion).

Claims 2-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over JACOBSON et al. (US Patent No: 5,961,804) in view of GORDON, II et al. (US Patent No: 6,271,823 B1).

As for claim 2, JACOBSON fails to teache that the display device is provided with ***at least one element*** selected from the group consisting of a substrate, a face plate, a diffuser panel, a color filter, a diffuser film, a collimator film, a prism film or ~~[and]~~ a polarizing film which are colored to a predetermined color.

GORDON teaches of a color filter in column 6, lines 19-26.

It would have been obvious to one with ordinary skill in the art at the time the invention was made to include the color filter as taught by GORDON with the display device of JACOBSON in order to effectively reflect the color of the cell (see GORDON: column 6, lines 19-20).

As for claim 3, JACOBSON as modified by GORDON {in claim 2 above} fails to teach that at least one element comprises polyethylene teraphthalate colored with ***anthraquinone dye*** having the predetermined color.

Applicant has not disclosed any specific adventage or criticality to having polyethylene teraphthalate colored with anthraquinone dye. As such, the anthraquinone dye is an obvious matter of ***design choice.***

It would have been obvious to one with ordinary skill in the art at the time the invention was made to use to unspecified "dyed carrier fluid" as taught by JACOBSON (in column 8, lines 50-56) since the unspecified dye seems to work as effectively as the anthraquinone dye in carrying out the overall intentions of the current invention.

As for claim 4, JACOBSON teaches of a monochromatic image display device that each cell is expressed in the same color in Fig. 3a-b and in column 8, lines 49-60.

JACOBSON fails to teach that each picture element of the display device comprises a series of spatially adjacent cells, each cell configured to express ***tones in three-or-more levels*** of the same color, and that the image display system further comprising at least one of: an ***area modulation means*** which controls an output luminance of each picture element by selectively turning on and off input signals to the respective cells, for the picture element, independently of each other, a ***time modulation means*** which drives the respective cells for each picture element in a time division system, and an ***intensity modulation means*** which controls input signal levels to the respective cells for each picture element independently of each other, wherein the cells are driven so that a maximum luminance of each picture element is in a range of ***lOOcd/m2 to lO000cd/m2***.

GORDON teaches that each picture element (Fig. 1, item 26) of the display device (Fig, 1) comprises a series of spatially adjacent cells (Fig. 1, items 14, 16, 18), each cell (Fig. 1, item 14, 16, 18) configured to express ***various levels*** in column 4 lines 15-20. (NOTE: Where the amount of color, or the tone, is dependent upon application of varying voltage levels). GORDON further teaches that the image display system (not shown) further comprising at least one of: an ***area modulation means*** (not shown) which controls an output luminance of each picture element by selectively turning on and off input signals to the respective cells (Fig. 1, item 14, 16, 18), for the picture element (Fig. 1, item 26), independently of each other in column 4, lines 19-20. (NOTE: Where the on and off states refers to the distributed and collected states).

GORDON further teaches of a ***time modulation means*** which drives the respective cells for each picture element in a time division system in column 4, lines 14-20. (NOTE: That Applicant defines the time modulation system in section [0167] to be:

> ...the time modulation means 220 divides a unit time into four time segments and carries out a time division drive in which the input signal is selectively turned on and off by the time segment. Then an output signal of the time modulation means 220 is input into the area modulation means 230 corresponding to each cell...

according to this broad definition, GORDON indirectly teachings of a time modulation means since an appropriate voltage, the input signal, is inputted into each cell from time to time). GORDON further teaches of an ***intensity modulation means*** which controls input signal levels to the respective cells (Fig. 1, item 14, 16, 18) for each picture element (Fig. 1, item 26) independently of each other, wherein the cells (Fig. 1, item 14, 16, 18) are driven in column 4, lines 15-20. (NOTE: That although neither JACOBSON nor GORDON specifies that the maximum luminance range is of ***lOOcd/m2 to lO000cd/m2***; this is a consequence of specifying that the "same color" is blue as explained in claim 1. In other words, in picking the color blue, it is generally presumed that the range is within 100-10000cd/m2. For evidentiary reference, please refer to HU et al., US Patent No: 5,932,363; column 13, lines 65-5).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to include the area, time and intensity modulation means as taught by GORDON with the same color display of JACOBSON in order to provide a low-powered yet large color gamut display (see GORDON: column 2, lines 64-66).

GORDON fails to teach that each cell is expressed in ***three or more*** tones.

Examiner takes ***official notice*** that it is well known to specify that each cell of GORDON is able to include at least three or more tones.

It would have been obvious to one with ordinary skill in the art at the time the invention was made to specify that each cell of GORDON is able to include at least three or more tones. If the reference's disclosed range is so broad as to encompass a very large number of possible distinct compositions, this might present a situation analogous to the obviousness of a species when the prior art broadly discloses a genus. *Id.* See also *In re Baird*, 16 F.3d 380, 29 USPQ2d 1550 (Fed. Cir. 1994); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992); MPEP § 2144.08.

As for claim 5, see the rejection of claim 4 above.

As for claim 6, JACOBSON teaches that the flat panel-like display device is a liquid crystal panel in column 9, lines 6-9.

As for claim 7, JACOBSON fails to teach that the flat panel-like display device is an ***organic EL panel***.

Examiner takes ***official notice*** that it is well known to use the technology as applied in JACOBSON in an OLED display.

It would have been obvious to one with ordinary skill in the art at the time the invention was made to implement the same color display of JACOBSON in an OLED display because it is within the field of intended use. The selection of a known material based on its suitability for its

intended use supported a *prima facie* obviousness determination in *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945)

As for claim 8, see the rejection of claim 4 above.

As for claims 9, 13, JACOBSON as modified by GORDON {as in claim 4 above} teaches that an average {claim 9} and the sum {claim 13} of the output luminance of all the cells (GORDON: Fig. 1, item 14, 16, 18) within each respective picture element (GORDON: Fig. 1, item 26) correspond to an output luminance of the respective picture element (GORDON: Fig. 1, item 26) in column 4, lines 5-10. (NOTE: Since each pixel is made up of two or more sub-pixels; it would make sense that the average and sum or each sub-pixels is representative of the average and sum of the overall pixel or picture element).

As for claims 10, 14, JACOBSON as modified by GORDON {as in claim 4 above} teaches that a cell signal generating means (not shown) for generating, based on a monochromatic image signal indicating an output luminance of each picture element (GORDON: Fig. 1, item 26) of the monochromatic image, a cell signal for each spatially adjacent cell (GORDON: Fig. 1, item 14, 16, 18) of a respective picture element (GORDON: Fig. 1, item 26) of the display device, wherein each respective picture element of the display device (not shown) corresponds to a picture element (GORDON: Fig. 1, item 26) of the monochromatic image in GORDON: column 4, lines 15-20 and in JACOBSON: column 8, lines 49-55.

As for claims 11, 15, JACOBSON as modified by GORDON {as in claim 4 above} teaches that a tone number conversion means (not shown) for carrying out a tone number conversion processing on an input original monochromatic image signal, thereby generating the monochromatic image signal indicating the output luminance of each picture element (Fig. 1, item 26) of the monochromatic image, wherein a number of tones represented by the monochromatic image signal is no greater than a number of tones which can be expressed by each respective picture element (Fig. 1, item 26) of the display device, and wherein a number of tones represented by the input original monochromatic image signal is greater than the number of tones represented by the monochromatic image signal in GORDON: column 4, lines 15-20 and in JACOBSON: column 8, lines 49-55.

As for claim 12, see the rejection of claim 1 above.

Response to Arguments

Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. EDWARD et al (US Patent No: 4,851,900) teaches of that is a well known common

practice within the medical community to produce images in shades of blue in column 1, lines 59-61.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tammy Pham whose telephone number is (571) 272-7773. The examiner can normally be reached on 8:00-5:30 (Mon-Fri).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TP
March 2, 2007

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